

U.S. Serial No. 09/668,788
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LISTING OF THE CLAIMS

Claims 2-4, 7-17, 21-33, 35-36 and 38-44 are cancelled. Claims 1, 34 and 37 have been amended as set forth below.

1. (Currently Amended) A process for the production of a glycosyl diacylglycerol, a sterolglycoside, a glycocerebroside, an alkyl- β -D-glycopyranoside, or a phosphoglycolipid in a cell by the useusing of a processive lipid glycosyl transferase that successively transfers a hexose residue to a lipid acceptor, comprising the steps of:

transferring a nucleic acid molecule that codes for a protein having the enzymatic activity of a processive diaeylglycerollipid glycosyl_transferase to a cell, the protein having an amino acid sequence which is identical to the sequence selected from the sequences in the group consisting of SEQ ID NO:2 and SEQ ID NO:4; and

expressing the protein having the enzymatic activity of a processive diaeylglycerollipid glycosyl_transferase under control of suitable regulatory sequences in the cell to produce a glycosyl diacylglycerol, a sterolglycoside, a glycocerebroside, an alkyl- β -D-glycopyranoside, or a phosphoglycolipid.

2-4 (Cancelled)

5. (Previously Presented) The process according to Claim 1, wherein the glycosyl diacylglycerol, the sterolglycoside, the glycocerebroside, the alkyl- β -D-glycopyranoside, or the phosphoglycolipid is selected from the group consisting of

monoglycosyldiacylglycerol,
diglycosyldiacylglycerol,
triglycosyl diacylglycerol,
tetraglycosyldiacylglycerol,
glycosyl ceramide,
diglycosyl ceramide,
steryl glycoside,
steryl diglycoside,
glycosyl phosphatidylglycerol, and
diglycosyl phosphatidylglycerol.

6. (Previously Presented) The process according to Claim 1, wherein the glycosyl diacylglycerol, the sterolglycoside, the glycocerebroside, the alkyl- β -D-glycopyranoside, or the phosphoglycolipid is selected from the group consisting of

monoglucosyldiacylglycerol,
diglucosyldiacylglycerol,
triglucosyldiacylglycerol,
tetraglucosyldiacylglycerol,
glucosyl ceramide,
diglucosyl ceramide,
steryl glucoside,
steryl diglucoside,
glucosyl phosphatidylglycerol, and
diglucosylphosphatidylglycerol.

7-17 (Cancelled)

18. (Previously Presented) The process according to Claim 1, wherein the lipid acceptor is a secondary lipid acceptor, and wherein the secondary lipid acceptor is selected from the group consisting of a monohexosyldiacylglycerolipid, a dihexosyldiacylglycerolipid, a trihexosyldiacylglycerolipid, a tetrahexosyldiacylglycerolipid, a glycocerebroside, a dihexosylcerebroside, a sterolglycoside, a steroldiglycoside and a phosphoglycolipid.

19. (Previously Presented) The process according to Claim 1, wherein the nucleic acid molecule codes for a protein having the enzymatic activity of a processive lipid glycosyl transferase that successively transfers glucose to a lipid acceptor.

20. (Previously Presented) The process according to Claim 1, wherein the lipid acceptor is a primary lipid acceptor, and wherein the primary lipid acceptor is diacylglycerol, sterol, phosphatidylglycerol or ceramide.

21-33 (Cancelled)

34. (Currently Amended) The process according to claim 27Claim 1, wherein the cell is selected from the group consisting of a plant cell, a yeast cell, and a bacterial cell.

35. (Cancelled)

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36. (Cancelled)

37. (Currently Amended) The process according to Claim 361, further comprising recovering the glycosyl diacylglycerol, the sterolglycoside, the glycocerebroside, the alkyl- β -D-glycopyranoside, or the phosphoglycolipid synthesized by the enzymatic activity of the processive lipid glycosyl transferase from the cell.

38-44 (Cancelled)